

WHAT IS CLAIMED:

1. A cement repair composition, said composition comprising in weight percentages:
 - fine aggregates selected from the group consisting of natural sand, manufactured sand and combinations thereof, 50-80%;
 - cement, 10-20%, said cement meeting ASTM C 1157, type GU, "Standard Performance Specification for Blended Hydraulic Cement," with a Blaine fineness, ASTM C 204 of less than 290, a tricalcium silicate content less than 60%, tricalcium aluminate of about 6%, and alkali content less than 0.6%;
 - reinforcing fibers selected from the group consisting of carbon fibers, ceramic fibers, polyethylene fibers, steel fibers, and fiberglass fibers, 0-5%; and
 - a lithium admixture and at least one further additive, 0.01-5%.
2. The cement repair material composition according to claim 1 wherein said at least one further additive comprises an air-entraining admixture.
3. The cement repair material composition according to claim 2 wherein said at least one further additive further comprises a first chemical additive selected from the group consisting of water-reducing admixtures, retarding admixtures, water-reducing retarding admixtures, water-reducing high-range admixtures, and water-reducing high-range retarding admixtures, and a second shrinkage compensating chemical additive.
4. The cement repair material composition according to claim 3, wherein said second chemical additive comprises a drying shrinkage reducing admixture.
5. The cement repair material composition according to claim 3, wherein said fine aggregates are present in an amount by weight from 60% to 80%; said cement is present in an amount by weight from 15% to 18%;

said lithium is present in an amount from 0.005% to 0.5%;
said air-entraining admixture is present in an amount from 0.005% to 0.05%;
said first chemical additive is present in an amount from 0.005% to 0.05%;
and
said second chemical additive is present in an amount from 0.005% to 0.05%

6. The cement repair material composition according to claim 1, wherein said reinforcing fibers are present in an amount of 1 to 5%.

7. The cement repair material composition according to claim 1, wherein said cement comprises Portland cement.

8. The cement repair material composition according to claim 1, further comprising a mineral admixture.

9. The cement repair material composition according to claim 8, wherein said mineral admixture is selected from the group consisting of coal ash, calcined natural pozzolan, and silica fume.

10. The cement repair material composition according to claim 9, wherein said mineral admixture is present in an amount by weight from 0% to 3.5%.

11. The cement repair material composition according to claim 10 wherein said mineral admixture comprises silica fume.

12. The cement repair material composition according to claim 11 wherein said mineral admixture further comprises a mineral admixture selected from the group consisting of coal ash, raw pozzolans and calcined pozzolans.

13. A cement repair composition for thin concrete, said composition comprising, in percentage by weight:

fine aggregate	79.0%
cement	15.0%
fibers	1.0%
air-entraining admixture	0.005%
water reducing additive	0.005%
drying shrinkage reducing additive	0.005%
a lithium admixture	0.005%
water	6.0%.

14. A cement repair material composition for thin concrete, said composition comprising, in percentage by weight:

fine aggregate	61.7%
cement	18.0%
fibers	5.0%
an air-entraining admixture	0.05%
water reducing additive	0.05%
drying shrinkage reducing additive	0.05%
lithium admixture	0.05%
mineral admixture	3.5%
silica fume	2.6%
water	9.1%.